

IN THE CLAIMS:

Please amend claim 7, and add new claims 11-16, as shown in the complete list of claims that is presented below.

1. (original) A method of signal path tracking for symbol timing recovery in a receiver, comprising the steps of:
providing current sampling points for a received signal to generate current symbols according to a timing scheme;
detecting optimal points of the current symbols for sampling the received signal;
computing an expected error from the current sampling points and the optimal points; and
adjusting the timing scheme to generate a future sampling point for a subsequent symbol according to the expected error, thereby recovering symbol timing of the receiver.
2. (original) The method according to claim 1, wherein computing the expected error further comprises:
comparing the current sampling points with the optimal points to obtain timing differences;
filtering the timing differences to obtain an average moving error; and
integrating the average moving error to obtain the expected error.
3. (original) The method according to claim 2, wherein filtering the timing differences further comprises convolution and accumulation of the timing differences.
4. (original) The method according to claim 1, wherein the optimal points for sampling the received signal correspond with samplings of a maximum signal strength in each symbol duration.

5. (original) The method according to claim 1, wherein computation of the expected error occurs once every N symbols, and the current sampling points and the optimal points for computing the expected error are averages of the N current symbols.

6. (original) The method according to claim 1, wherein the timing scheme for sampling the received signal is adjusted to continue alignment of a sampling clock transition with an optimal sampling point computed by the expected error of a preceding symbol.

7. (currently amended) A system of signal path tracking for symbol timing recovery in a receiver comprising:

a symbol sampler, sampling a received signal at current sampling ~~point~~ points

according to a timing scheme;

a peak detector, detecting optimal points for sampling the received signal;

an error detector, computing an expected error from the optimal points detected by the peak detector and the current sampling points of the symbol sampler; and

a path tracker, computing a future sampling point of a subsequent symbol and providing the future sampling point to the symbol sampler to adjust the timing scheme.

8. (original) The system for symbol timing recovery according to claim 7, the error detector further comprising:

a comparator, comparing the current sampling points of the symbol sampler and the optimal points detected by the peak detector to obtain timing differences;

a loop filter, filtering the timing differences received from the comparator to obtain an average moving error; and

an integrator, integrating the average moving error from the loop filter to obtain an expected error.

9. (original) The system for symbol timing recovery according to claim 7, wherein the optimal points for sampling the received signal correspond with samplings of a maximum signal strength in each symbol duration.

10. (original) The system for symbol timing recovery according to claim 7, wherein the error detector computes the expected error once every N symbols, and the current sampling points and the optimal points for computing the expected error are averages of N symbols.

11. (new) The system for symbol timing recovery according to claim 7, wherein the current sampling points are selected from a sequence of potential sampling points for each symbol and the optimal sampling points are the potential sampling points for each symbol at which the amplitude of the received signal has the highest absolute value.

12. (new) The system for symbol timing recovery according to claim 11, wherein the sequence of potential sampling points for each symbol includes more than two potential sampling points for each symbol.

13. (new) The system for symbol timing recovery according to claim 12, wherein the sequence of potential sampling points for each symbol includes about eight sampling points for each symbol.

14. (new) The method according to claim 1, wherein the current sampling points are selected from a sequence of potential sampling points for each symbol and the optimal sampling points are the potential sampling points for each symbol at which the amplitude of the received signal has the highest absolute value.

15. (new) The method according to claim 14, wherein the sequence of potential sampling points for each symbol includes more than two potential sampling points for each symbol.

16. (new) The method according to claim 15, wherein the sequence of potential sampling points for each symbol includes about eight sampling points for each symbol.